# EXTRA EXAM

Math 128 First exam Faburary 8, 2005

Name: _____

Please print above

## Course: *Math 128*

Part of your name should be printed in large letters at the top of this page of your examination booklet. Your proctor can help you find your booklet if necessary. Make sure an answer card is on top of the booklet.

- make sure you have an adequate supply of PENCILS and ERASERS and your WASHINGTON UNIVERSITY photo ID card.

- PRINT your name and the course and exam number at the top of your card. Fill in your ID number in the appropriate boxes.

- Do not use any extra NOTES, BOOKS, or SCRATCH PAPER. You should have ample space in your booklet for calculations. If you run out of space use the sides of the booklet pages for your work.

- CALCULATORS are only allowed if your instructor permits them.

- MARK your answer card neatly and make clean erasures. Sloppy card will delay grading and result in your scores being withheld until you visit the math office to see your mismarkings.

- To see your exam score, go to the math department homepage at www.math.wustl.edu and use the link to 'Exam/hw/quiz scores' under 'Resources'.

- Scores on multiple choice questions will usually appear on the website within two days.

For more information about your exam, contact your instructor or the math department office in Cupples I, room 100.

# EXAM 1, MATH 128
# TUESDAY, FEBRUARY 8, 2005

This examination has 18 multiple choice questions, and two essay questions. Please check it over and if you find it to be incomplete, notify the proctor. Do all your supporting calculations in this booklet. In case of a doubtful mark on your answer card, your booklet can then be checked to see if you worked the problem correctly. When you mark your card, use a soft lead pencil (#2). Erase fully any answers you want to change. The multiple choice questions 1 through 18 are worth 4 points apiece for a total of 72 points.

On problems 19 and 20, show all your work and indicate clearly your answer to the problem. Partial credit will be given for partially completed solutions to these two problems. Problem 19 is worth 12 points and Problem 20 is worth 16 points. A good test strategy is to START with these two problems, work on them for no more than a total of 40 minutes, then work rapidly on questions 1-18 and do as many as you can.

You may use a $3 \times 5$ notecard. You may also use a scientific calculator as long as it is NOT A CAS CALCULATOR. Thus, the Texas Instrument models 83, 83Plus, 85, and 86 are all fine but the TI-89 and TI-92 are not allowed.

(1) Evaluate $\int 5x^{2/3} + e^{3x} - 2/x^2$.

(A) $3x^{5/3} + e^{3x} - 4/x^3 + C$
(B) $3x^{5/3} + e^{3x}/3 - 4/x^3 + C$
(C) $3x^{5/3} + e^{3x}/3 + 2/x + C$
(D) $5x^{5/3} + e^{3x}/3 - 4/x^3 + C$
(E) $3x^{5/3} + e^{3x}/3 + 4/x^3 + C$
(F) $5x^{5/3} + e^{3x} + 4/x + C$
(G) $2x^{5/3} + e^{3x}/3 + 4/x + C$
(H) $5x^{2/3} + e^{3x} - 4/x^3 + C$
(I) $3x^{2/3} + e^{3x} + 2/x^2 + C$
(J) $10x^{2/3} + e^{3x}/3 - 4/x^3 + C$

(2) Evaluate $\int \frac{2}{3x+2}\,dx$

(A) $\ln(3x+2)+C$
(B) $6\ln(3x+2)+C$
(C) $2\ln(3x+2)+C$
(D) $\frac{2}{3}\ln(3x+2)+C$
(E) $\frac{1}{3}\ln(3x+2)+C$
(F) $\frac{2}{3}(3x+2)\ln(3x+2)+C$
(G) $(x+2)\ln(3x+2)+C$
(H) $(6x+4)\ln(3x+2)+C$
(I) $3x^2+4x+C$
(J) $\frac{2}{3}\ln x+4x+C$

(3) Evaluate $\int 2x\,(x^2+1)^{3/2}dx$

(A) $x^2(x^2+1)^{3/2}+C$
(B) $x^2(x^2+1)^{5/2}+C$
(C) $x(x^2+1)^{3/2}+C$
(D) $x(x^2+1)^{3/2}+C$
(E) $\frac{2}{5}(x^2+1)^{5/2}+C$
(F) $\frac{4}{3}(x^2+1)^{5/2}+C$
(G) $\frac{4}{3}(x^2+1)^{3/2}+C$
(H) $\frac{2}{5}(x^2+1)^{3/2}+C$
(I) $2(x^2+1)^{1/2}+C$
(J) $3(x^2+1)^{1/2}+C$